

OPTIMAL CONFIGURATION METHOD

Abstract of the Invention

A method for determining an optimal configuration and redundancy allocation for a
5 system containing a plurality of units grouped into a plurality of elements and one or more
modules. The method conducts random statistical sampling of a combinatorial space
reflecting the possible combinations, redundancies and integrations of the units and elements
in a given system. For each sample combination, the method calculates an optimization
metric that reflects the reliability and/or the cost of that combination. The optimization metric
10 may incorporate relative weighting of constraints used to evaluate whether the combination is
optimal. The optimum configuration will be the configuration having the lowest optimization
metric out of all the samples.

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